2

cyclonic collection device.

## WHAT IS CLAIMED IS:

	1	1. A method of detecting the presence or absence of Bacillus anthracis in a
Or Or	2	test sample, the method comprising:
	<sub>{</sub> 3	contacting a test sample with a capture reagent that can bind to a
	A	Bacillus anthracis surface array protein, wherein the capture reagent forms a complex with
	5	the surface array protein if the surface array protein is present in the test sample; and
	6	detecting whether surface array protein is bound to the capture reagent,
	7	wherein the presence of surface array protein is indicative of the presence of Bacillus
	8	anthracis in the test sample.
in I I I I I I I I I I I I I I I I I I I	1	2. The method of thim 1, wherein the surface array protein comprises a
	2	polypeptide having an amino acid sequence of SEQ ID NO:1.
	1	3. The method of claim 1, wherein the <i>B. anthracis</i> strain is encapsulated.
	1	4. The method of claim 1, wherein the capture reagent comprises an
	2	antibody which binds to surface array protein.
	1	5. The method of claim 4, wherein the antibody is a recombinant antibody.
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	1 (	6. The method of claim 5, wherein the antibody is a recombinant
	2	polyclonal antibody.
	1	7. The method of claim 5, wherein the antibody is a monoclonal antibody.
	1	8. The method of claim 1, wherein the test sample is collected from a site
	2	of suspected or threatened anthrax contamination.
	1	9. The method of claim 8, wherein the test sample is collected using a

	1	10. The method of claim 1, wherein the test sample is not cultured prior to
	3 2	contacting with the capture reagent.
	1	11. The method of claim 1, wherein the capture reagent is immobilized on a
	2	solid support.
	1	12. The method of claim 11, wherein the solid support is a microtiter dish.
L		13. The method of claim 11, wherein the capture reagent is immobilized on
, , , , , , , , , , , , , , , , , , ,	10 (52)	the solid support prior to contacting the capture reagent with the test sample.
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`\_] !_	1	14. The method of claim 1, wherein the method can detect <i>B. anthracis</i> at
:	2	concentrations as low as about 10,000 cfu/ml.
1, 12	1	15. The method of claim 14, wherein the method can detect B. anthracis at
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<b>!</b> ]	2	concentrations as low as about 5,000 cfu/ml.
13	1	16. The method of claim 15, wherein the method can detect B. anthracis at
13	2	concentrations as low as about 1,800 cfu/ml.
1.4	_	
	1	17. The method of claim 1, wherein the detection of the surface array
	2	protein is performed by contacting the surface array protein with a detection reagent that car
	3	bind to the surface array protein.
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	1	18. The method of claim 17, wherein the detection reagent comprises an
	2	antibody which binds to surface array protein.
	1	19. The method of claim 17, wherein the detection reagent binds to a
	~ , <b>%</b> ,	different epitope of the surface array protein than does the capture reagent.
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	1/	20. The method of claim 17, wherein the detection reagent comprises a
	2	detectable label.

	1	21. The method of claim 20, wherein the detectable label is selected from
	2	the group consisting of a radioactive label, a fluorophore, a dye, an enzyme, and a
	3	chemiluminescent label.
	1	22. A kit for detecting the presence or absence of Bacillus anthracis in a
1.10	2	sample, the kit comprising:
200	>3	a solid support upon which is immobilized a capture reagent that can
	4	bind to a surface array protein of Bacillus anthracis; and
	5	a detection reagent which binds to the surface array protein.
ing the state of t	1	23. The kit of claim 22, wherein the solid support is a microtiter dish.
	1	The kit of claim 22 wherein the capture reagent is an antibody.
	13	25. The kit of claim-24, wherein the antibody is a recombinant polyclonal antibody.
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SUPPA		26. The kit of claim 24, wherein the antibody is a monoclonal antibody.
14		27. The kit of claim 22, wherein the capture reagent is a mixture of
30	is	monoclonal and polyclonal antibody preparations.
,	1	28. The kit of claim 22, wherein the kit further comprises written
	2	instructions for using the kit to determine whether a test sample contains B. anthracis.
	1	29. The kit according to claim 22, wherein the kit further comprises a
	2	positive control that comprises a polypeptide that comprises an antigenic determinant of a B
C	3	anthracis surface array protein.
	1	30. The kit according to claim 29, wherein the surface array protein
	2	comprises an amino acid sequence of SEQ ID NO:1.

31. A recombinant polyclonal antibody preparation that specifically binds to an antigenic determinant of a surface array protein of *Bacillus anthracis*.

32. The recombinant polyclonal antibody preparation of claim 31, wherein the surface array protein comprises an amino acti sequence of SEQ ID NO:1.

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